CLAIMS

1. A method of making a magnetic head, comprising:

forming a front connecting pedestal and a back gap connecting pedestal at least partially over a front P2 pole tip and a back gap P2 pedestal, respectively;

forming insulator materials over a front portion of the front P2 pole tip and in between the front and back gap connecting pedestals;

depositing yoke layer materials over a top surface of the front and back gap connecting pedestals and the insulator materials;

forming a photoresist mask over the yoke layer materials, leaving exposed a front portion of the yoke layer material that is positioned over the front portion of the front P2 pole tip; and

milling away that portion of the yoke layer materials that is exposed by the photoresist mask to thereby form a yoke.

2. The method of claim 1 wherein, during the act of milling away the portion of yoke layer materials to form the yoke, the front P2 pole tip is protected by the insulator materials.

3. The method of claim 1, wherein the act of forming the front and the back gap connecting pedestals comprises electroplating the front and the back gap connecting pedestals.

4. The method of claim 1, wherein the act of forming the front connecting pedestal comprises forming the front connecting pedestal such that it is offset from an air bearing surface (ABS).

5. The method of claim 1, wherein the act of forming the insulator materials further comprises:

chemically-mechanically polishing (CMP) the top of the insulator materials to form the top surface of the front and the back gap connecting pedestals and the insulator materials, to form a substantially coplanar top surface.

6. The method of claim 1, wherein the act of forming yoke layer materials comprises the further act of sputter depositing the yoke layer materials.

7. The method of claim 1, wherein the yoke comprises a highly resistive magnetic material.

8. The method of claim 1, wherein the yoke comprises a laminated structure of alternating magnetic and dielectric layers.

9. A magnetic head, comprising:

a first P1 pole piece;

a second P2 pole piece which has a front P2 pole tip and a back gap P2 pedestal;

a gap layer which separates the first P1 pole piece and the second P2 pole piece at an air bearing surface (ABS);

a front connecting pedestal at least partially formed over the front P2 pole tip;

a back gap connecting pedestal at least partially formed over the back gap P2 pedestal;

an insulator material formed in between the front and the back connecting pedestals; and

a yoke formed over the front and the back gap connecting pedestals for connecting the front P2 pole tip and the back gap P2 pedestal.

10. The magnetic head of claim 9, wherein the yoke comprises a highly resistive magnetic material.

11. The magnetic head of claim 9, wherein the yoke comprises a laminated structure of alternating magnetic and dielectric layers.

12. The magnetic head of claim 9, wherein the front P2 pole tip, the back gap P2 pedestal, and the front and the back gap connecting pedestals comprise electroplated structures.

13. The magnetic head of claim 9, wherein the front and the back gap connecting pedestals comprise a magnetic material.

14. A disk drive, comprising:

at least one rotatable magnetic disk;

a spindle supporting the at least one rotatable magnetic disk;

a disk drive motor for rotating the at least one rotatable magnetic disk;

a magnetic head for writing data to the at least one rotatable magnetic disk;

a slider for supporting the magnetic head;

the magnetic head including:

a first P1 pole piece;

a second P2 pole piece which has a front P2 pole tip and a back gap P2 pedestal;

a gap layer which separates the first P1 pole piece and the second P2 pole piece at an air bearing surface (ABS);

a front connecting pedestal at least partially formed over the front P2 pole tip;

a back gap connecting pedestal at least partially formed over the back gap P2 pedestal;

an insulator material formed in between the front and the back connecting pedestals; and

a yoke formed over the front and the back gap connecting pedestals for connecting the front P2 pole tip and the back gap P2 pedestal.

15. The disk drive of claim 14, wherein the yoke of the magnetic head comprises a highly resistive magnetic material.

16. The disk drive of claim 14, wherein the yoke of the magnetic head comprises a laminated structure of alternating magnetic and dielectric layers.

17. The disk drive of claim 14, wherein the front P2 pole tip, the back gap P2 pedestal, and the front and the back gap connecting pedestals comprise electroplated structures.

18. The disk drive of claim 14, wherein the front and the back gap connecting pedestals comprise a magnetic material.

19. A method of making a magnetic head, comprising:

providing a partially constructed magnetic head which has a top surface formed by a front P2 pole tip, a back gap P2 pedestal, and insulator materials disposed between the front P2 pole tip and the back gap P2 pedestal;

forming a layer of selectively etchable materials over the top surface of the partially constructed magnetic head, the layer having a front edge that is recessed away from an air bearing surface (ABS);

forming additional insulator materials over the selectively etchable material layer and over a front portion of the front P2 pole tip;

performing a chemical-mechanical polishing (CMP) to form a substantially coplanar top surface with the selectively etchable material layer and the additional insulator materials;

etching to remove the selectively etchable material layer;

depositing yoke layer materials over the resulting structure; and

performing a chemically-mechanically polishing (CMP) to form a substantially coplanar top surface with the yoke layer materials and the additional insulator materials, to thereby form a yoke.

20. The method of claim 19, wherein the yoke of the magnetic head comprises a highly resistive magnetic material.

21. The method of claim 19, wherein the yoke of the magnetic head comprises a laminated structure of alternating magnetic and dielectric layers.

22. The method of claim 19, wherein the act of forming the layer of selectively etchable materials comprises the further act of electroplating the selectively etchable material layer.

23. The method of claim 19, wherein the act of etching to remove the selectively etchable material layer comprises wet etching.

24. The method of claim 19, wherein the selectively etchable material layer comprises copper, and the act of etching to remove the selectively etchable material layer comprises wet etching.

25. The method of claim 19, wherein the act of etching to remove the selectively etchable material layer comprises a reactive ion etch (RIE).